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| 10/014,589      | 12/14/2001  | Tadao Matsumoto      | 0229-0680P          | 2029             |

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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/014,589

Applicant(s)

MATSUMOTO, TADAO

Examiner

Steven D. Maki

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1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1) Claim 2 is objected to because of the following informalities: In claim 2 line 2, "rage" should be --range--. Appropriate correction is required.

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3) **Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (US 6112788).**

Ikeda discloses a pneumatic tire having circumferential grooves. The circumferential groove has a width of 5-20 mm and is for draining water. Ikeda suggests locating a plurality of circumferential ribs at the bottom of the circumferential groove to prevent the bottom of the groove from being cracked. Ikeda teaches that the deepest points of the groove may reside only in the outermost valleys. See figure 4. Hence, Ikeda substantially discloses the claimed invention in that Ikeda teaches a **relatively wide circumferential groove** having of 5-20 mm and a **continuous groove bottom rib** provided in the top face with a small groove having a depth less than the height of the groove bottom rib. See figure 4.

Ikeda does not specifically recite that the groove width is at least 5% tread width. However, it would have been obvious to one of ordinary skill in the art to provide the passenger car tire of Ikeda with a circumferential groove having a groove width of at least 5% tread width since Ikeda suggests using a groove width of 5-20 mm for the circumferential groove to improve water drainage and optionally (b) it is taken as well

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known / conventional per se in the tire art to provide circumferential groove(s) of a passenger car tire with a groove width of at least 5% tread width in order to improve drainage (only the expected results (improved wet performance) being obtained.

As to the groove bottom rib having a height of 0.5-3.0 mm, Ikeda teaches that the rib has a height of 0.5-1.0 mm, which falls within the claimed range of 0.5-3.0 mm. The limitation of the groove bottom rib having a base width of 10-30% groove width would have been obvious since Ikeda suggests that the number of small ribs, which have a width of 1-1.5 mm and are spaced by a corresponding width, may be two. With two such small ribs in the figure 4 embodiment, the "groove bottom rib" has a width of 3-4.5 mm. With a 20 mm groove width and a groove bottom width of 3-4.5 mm, the "groove bottom rib" has a width of 15%-22.5%, which falls within the claimed range of 10-30%.

As to claim 2, the claimed depth of 30-60% would have been obvious in view of Ikeda's suggestion that the groove between the small ribs may be shallow as indicated in figure 4.

**4) Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (US 6112788) as applied above and further in view of Nakagawa et al (US 6505661), Nakagawa (JP 2001-55012), Consolacion et al (US 5503206) or Shesterkin (US 2268344).**

US 6505661 is available as prior art under 35 USC 102(e).

Japan 2001-55012 is available as prior art under 35 USC 102(a). Applicant cannot rely upon the foreign priority papers to overcome this rejection because (1) the certified copy of the foreign priority document has not been received and

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(2) a translation of said papers has not been made of record in accordance with 37 CFR

1.55. See MPEP § 201.15.

As to claim 3, it would have been obvious to one of ordinary skill in the art to provide the circumferential grooves of Ikeda with small crosswise ribs in view of (a) the suggestion in Nakagawa et al (US 6505661 or Japan 2001-55012) to use lateral small ribs *and* circumferential small ribs at the bottom of a wide groove to *prevent bareness of rubber*, (b) Consolacion et al's suggestion to locate serrated portions 26 (small crosswise ribs) at the bottom of a wide groove to *disperse noise*, or (c) Shesterkin's suggestion to use cross wise ridges at the bottom of a groove to *prevent cracking at the groove bottom*.

5) **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (US 6112788) as applied above and further in view of Japan '508 (JP 2-179508).**

As to claim 4, it would have been obvious to provide the circumferential groove with the claimed down slope since Japan '508 suggests forming a down slope at the edges of circumferential grooves to reduce noise and improve wear.

6) **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (US 6112788) as applied above and further in view of Europe 480 (EP 646480).**

As to claim 4, it would have been obvious to use only one wide circumferential groove in Ikeda's tread since Europe '480 suggests using only one wide circumferential groove as an alternative to plural circumferential grooves to reduce noise while retaining good drainage.

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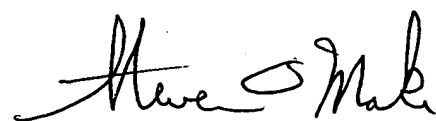
Remarks

- 7) The remaining references are of interest.
- 8) No claim is allowed.
- 9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki  
September 8, 2003

  
STEVEN D. MAKI  
PRIMARY EXAMINER  
GROUP 1300  
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9-8-03